

LIST OF CURRENT CLAIMS

1. (Currently Amended) A method for despreding a received spread spectrum signal, comprising the steps of:
  - transforming said received signal;
  - multiplying said transformed signal with a set of transformed spreading codes; and
  - summing said multiplied signal to generate a despread signal, wherein said transformed spreading codes is generated by transforming spreading codes using a transformation method, comprising the steps of:
    - splitting two bits from a spreading code alternately into I and Q data;
    - converting said I and Q data;
    - inserting zeros alternately into said I and Q data;
    - inserting an initial condition for said I and Q data; and
    - calculating transformed output as a function of said I and Q data.
2. (Original) A method as recited in claim 1 further including an additional step after said summing step for canceling by-products from said despread signal.
3. (Original) A method as recited in claim 1 wherein said transforming step and said transformed spreading codes use the same transformation.
4. (Cancelled)
5. (Currently Amended) A method as recited in claim [[4]] 1 wherein in said inserting zeros step the first zero is inserted after the first bit of said I data and the first zero is inserted before the first bit of said Q data.
6. (Currently Amended) A method as recited in claim [[4]] 1 wherein said inserting an initial condition step a zero is inserted for said I data and a -1 or 1 is inserted for said Q data.
7. (Currently Amended) A method as recited in claim [[4]] 1 wherein in said calculating step

the equation,  $y(k)=I(k-1)Q(k)-I(k)Q(k-1)$ , is used for calculating said transformed codes.

8. (Original) A method as recited in claim 2 wherein said canceling step comprises the following substeps: summing  $M$  samples, where  $M$  is an integer;  
subtracting  $4/M$  from said output for said transformed spreading codes in the range of 1-8; and  
adding  $4/M$  to said output for said transformed spreading codes in the range of 9-16.

9. (Currently Amended) A method for despreading a received, sampled spread spectrum signal, comprising the steps of:

transforming said received signal; down sampling said transformed signal;  
multiplying said down sampled signal with a set of transformed spreading codes;  
[[and]]  
summing said multiplied signal to generate a despread signal; and  
canceling by-products from said despread signal;  
wherein said canceling step is performed as a function of an average of said down  
sampled signal and said despread signal.

- 10.-11. (Cancelled)

12. (Original) A method as recited in claim 9 wherein said transforming step and said transformed spreading codes use the same transformation.

13. (Original) A method as recited in claim 9 wherein said transformed spreading codes is generated by transforming spreading codes using a transformation method, comprising the steps of:

splitting two bits from a spreading code alternately into I and Q data;  
converting said I and Q data; inserting zeros alternately into said I and Q data;  
inserting an initial condition for said I and Q data; and  
calculating transformed output as a function of said I and Q data.

14. (Original) A method as recited in claim 13 wherein in said inserting zeros step the first zero is inserted after the first bit of said I data and the first zero is inserted before the first bit

of said Q data.

15. (Original) A method as recited in claim 13 wherein said inserting an initial condition step a zero is inserted for said I data and a -1 or 1 is inserted for said Q data.

16. (Original) A method as recited in claim 13 wherein in said calculating step the equation,  $y(k)=I(k-1)Q(k)-I(k)Q(k-1)$ , is used for calculating said transformed codes.

17. (Currently Amended) A method as recited in claim [[10]] 9 wherein said canceling step comprises the following substeps:

summing M samples, where M is an integer;

subtracting  $4/M$  from said output for said transformed spreading codes in the range of 1-8; and

adding  $4/M$  to said output for said transformed spreading codes in the range of 9-16.

18. (Original) A method for converting spreading codes for de-spreading a spread spectrum signal to transformed codes for de-spreading said spread spectrum signal, said spreading codes comprising of 0's and 1's, comprising the steps of:

splitting two bits from a spreading code alternately into I and Q data;

converting said I and Q data; inserting zeros alternately into said I and Q data;

inserting an initial condition for said I and Q data; and

calculating transformed codes as a function of said I and Q data.

19. (Original) A method as recited in claim 18 wherein in said inserting zeros step the first zero is inserted after the first bit of said I data and the first zero is inserted before the first bit of said Q data.

20. (Original) A method as recited in claim 18 wherein said inserting an initial condition step a zero is inserted for said I data and a -1 or 1 is inserted for said Q data.

21. (Original) A method as recited in claim 18 wherein in said calculating step the equation,  $y(k)=I(k-1)Q(k)-I(k)Q(k-1)$ , is used for calculating said transformed codes.